

# NITEC IN RAPID TRANSIT TECHNOLOGY

## CERTIFICATION

Credits required for certification:

|                     |            |
|---------------------|------------|
| Core Modules        | : 43       |
| Life Skills Modules | : 9        |
| Elective Modules    | : 4        |
| <hr/> Total         | <hr/> : 56 |

## COURSE STRUCTURE

| Module Title                                       | Credits |
|--|---------|
| <b>CORE MODULES</b>                                |         |
| Rapid Transit Systems & Controls                   | 5       |
| Rapid Transit Electrical Practices                 | 6       |
| Rapid Transit Electronics Practices                | 6       |
| Rapid Transit Mechanical Practices                 | 6       |
| Rapid Transit Rolling Stock                        | 6       |
| Rapid Transit Permanent Way                        | 6       |
| Internship Programme                               | 8       |
| <b>ELECTIVES (COURSE SPECIFIC)</b>                 |         |
| Technical Mathematics (Rapid Transit)              | 3       |
| Mechanical Tools and Applications                  | 2       |
| Rapid Transit Light Rail Systems                   | 2       |
| <b>ELECTIVES (INTER-DISCIPLINARY)</b>              |         |
| Video Surveillance System                          | 2       |
| Metrology  | 2       |
| Bearing Maintenance Technology                     | 2       |
| <b>ELECTIVES (GENERAL) AND LIFE SKILLS MODULES</b> |         |
| For details, click <a href="#">here</a>            |         |

*Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.*

## MODULE OBJECTIVES

### Core Modules

#### Rapid Transit Systems & Controls

On completion of the module, students should be able to maintain electro-pneumatic, electro-hydraulic and PLC systems; and explain the special features of trains, railway engineering technologies, rapid transit facilities and rail regulatory compliance measures and workplace safety regulations.

#### Rapid Transit Electrical Practices

On completion of the module, students should be able to maintain and troubleshoot electrical circuits and equipment, motor control circuits and train electrical systems.

### Rapid Transit Electronics Practices

On completion of the module, students should be able to maintain and troubleshoot analogue and digital electronics equipment as well as electromechanical control systems.

### Rapid Transit Mechanical Practices

On completion of the module, students should be able to perform mechanical fabrication and maintain mechanical assemblies for rail operations.

### Rapid Transit Rolling Stock

On completion of the module, students should be able to maintain train air-conditioning, ventilation, brakes, bogie and cabin equipment and door control systems.

### Rapid Transit Permanent Way

On completion of the module, students should be able to maintain permanent way parts and tracks as well as third rail and current collection systems for trains.

### Internship Programme

On completion of the module, students should be able to apply the skills and knowledge acquired to take on a range of job scope at the company.

## Electives (Course Specific)

### Technical Mathematics (Rapid Transit)

On completion of the module, students should be able to understand and apply basic mathematical principles in to use and operate scientific calculators; perform arithmetic operations, numerical ten and SI prefix conversions, rearrangement of mathematical terms, data collection including interpreting straight-line graphs, charts and data.

### Mechanical Tools and Applications

On completion of the module, students should be able to apply knowledge and skills to perform mechanical maintenance and repair of fastening devices.

### Rapid Transit Light Rail Systems

On completion of the module, students should be able to maintain, troubleshoot, service and repair light rail propulsion, battery, bogie and undercarriage systems and equipment.

## Electives (Inter-disciplinary)

### Video Surveillance System

On completion of the module, students should be able to install, test and operate the video surveillance systems and equipment.

### Metrology

On completion of the module, students should be able to understand the fundamental of inspection and, verify and measure engineering components according to technical drawing using appropriate tools.

### Bearing Maintenance Technology

On completion of the module, students should be able to apply the skills and knowledge to select, replace and diagnose anti-friction bearing faults.

## Electives (General) and Life Skills Modules

For details, click [here](#).